

Appln. No. 10/731,645
Amendment filed January 13, 2006
Response to Office Action mailed on September 22, 2005

REMARKS

Claims 1-3, 5-7, 9-13, 15-17 and 19 are pending in this application. Claims 14-16 and 19 were deemed to present allowable subject matter and were said to be allowable if suitably rewritten in independent form. Claims 4, 8, 14 and 18 have been cancelled and claims 1, 5, 6, 9, 12, 13, 17 and 19 have been amended; claim 1 includes the features of cancelled claims 4 and 8, and claim 17 incorporates the features of cancelled claim 18. Claims 5, 6 and 19 have been revised to reflect the cancellation of claims 4 and 18. Claims 9 and 12-14 were objected to and claims 1-13, 17 and 18 were rejected. Claims 1 and 17 are independent.

The Examiner is thanked for the indicated allowability of claims 14-16 and 19.

The Objection to the Claims

Claims 9 and 12-14 were objected to as containing a number of informalities. Applicants respectfully traverse this objection and submit the following arguments in support thereof.

Insofar as claim 14 has been cancelled, the corresponding portion of this objection is moot, and so must be withdrawn.

Claims 9, 12 and 13 have been carefully reviewed and, were appropriate, have been revised to attend to the points noted by the Examiner.

Accordingly, favorable reconsideration and withdrawal of this objection are respectfully requested.

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**The Rejections Under
35 U.S.C. § 102**

Claims 1 and 17 have been rejected under 35 U.S.C. § 102(b) as being anticipated by U.S. Patent No. 6,106,112 to Okubo et al. Applicants respectfully traverse this rejection and submit the following arguments in support thereof.

Okubo is commonly assigned. To the extent Applicants will discuss Okubo, please note the following. The discussion of Okubo in this response involves the general teachings of that reference, and should not necessarily be construed to limit the scope of the claims of Okubo or its counterparts. If Okubo is characterized as teaching a particular feature or mode of operation, Okubo's claims and those of its counterparts should not necessarily be construed to require that feature or mode of operation unless the feature or mode of operation is specifically recited in the claims. In this regard, it should be noted that the claims of a patent are not necessarily limited to embodiments disclosed, and that limitations in the specification are not necessarily to be imported into the claims. Also, an inventor need not foresee all uses for their invention.

The present invention, as described in claim 1, involves a liquid cartridge for supplying liquid when mounted on a liquid ejecting apparatus. The liquid cartridge has a container body with an opening part, which is opened, at a first side face, a lid, which is attached to the first side face of the container body, for covering the opening part, a penetrating part formed at the container body or lid, this penetrating part being formed at an engaging part, which has an extending part that extends along a second side face adjacent to the first side face of the container body, and a caulking part formed at the container body or lid and inserted into the penetrating part in order for a tip part thereof to be caulked. The container body or lid is provided with either the engaging part or caulking part respectively at plural second side faces

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adjacent to the first side face, and the penetrating part of the engaging part at a first one of the second side faces is a penetrating hole in order for the caulking part to be inserted. The penetrating part of the engaging part at a second one of the second side faces is formed as a notch in order for the caulking part to be inserted.

Further, according to claim 17 this invention involves a method for manufacturing a liquid cartridge by providing the liquid cartridge, the liquid cartridge having a container body with an opening part, which is opened, at a first side face, a lid, which is attached to the first side face of the container body, for covering the opening part, a penetrating part formed at the container body or lid, an engaging part, which has an extending part that extends along a second side face adjacent to the first side face and the penetrating part, and a caulking part formed at the container body or lid and inserted into the penetrating part, in order for a tip part of the caulking part to be caulked. The engaging part, penetrating part or caulking part are respectively provided at plural second side faces, and the penetrating part of the engaging part at a first one of the second side faces is a penetrating hole into which the caulking part is inserted. The penetrating part of the engaging part at a second one of the second side faces is formed as a notch into which the caulking part is inserted. This method also involves determining a position of the lid in regard to the first side face of the container body by fitting the caulking part into the penetrating part and fitting the engaging part, which has the penetrating hole at the first one of the second side faces, with the caulking part corresponding to the penetrating hole, and fitting the caulking part, which corresponds to a notch at the second one of the second side faces, into the engaging part having the notch by turning the lid toward the container body, taking a fitted part between the penetrating hole and caulking part as a turning center, and deforming the tip part of the caulking part with heat to perform caulking.

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This rejection is vigorously traversed on grounds the Office Action substantially mischaracterizes Okubo. The Office Action refers at page 3 to Figs. 9 and 10 and elements 112, 113 and 114 of Okubo - however, Okubo does not contain either Figs. 9-10 or teach elements 112-114.

Since Okubo does not provide the teachings on which this rejection relies, this rejection is unsupported and so must be withdrawn.

Nor do any other portions of Okubo even suggest the claimed invention. As explained at col. 2, lines 34-42, and col. 3, line 66, through col. 4, line 9, Okubo merely teaches an ink cartridge in which the engagement projections 26 provided on the front edge of lid body 25 are received in engagement holes 10 formed in the front end wall of the case main body 1. There is no teaching that the engagement projections are caulked in the manner claimed. In this regard, the specification describes caulking in part at ¶¶ 90-95 and 98 of the original specification. ¶ 98 explains that caulking can be effected by melting the caulking parts 62a and 62b to broaden over extending parts 52a and 52b.

Okubo also fails to suggest the shape of the caulking parts; in the present invention, as recited in claim 1, the penetrating part of the engaging part at the first one of the second side faces is a penetrating hole, and the penetrating part of the engaging part at the second one of the second side faces is a notch. Those skilled in the art will appreciate that this arrangement aids in positioning the lid during assembly.

It is well-accepted that a reference which fails to identically disclose all the features of a claimed invention cannot anticipate that invention. Here Okubo fails even to suggest numerous claim features. Accordingly, Okubo neither anticipates nor suggests the present invention.

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For all the foregoing reasons, favorable reconsideration and withdrawal of this rejection are respectfully requested.

Claims 1, 4-13, 17 and 18 have been rejected under 35 U.S.C. § 102(e) as being anticipated by U.S. Patent No. 6,666,551 to Kobayashi et al. Applicants respectfully traverse this rejection and submit the following arguments in support thereof.

Kobayashi, like Okubo, is commonly assigned along with this application. Applicants' prior comments pointing that out any characterization of Okubo herein should not necessarily limit Okubo apply equally to Kobayashi.

Next, it will be appreciated that the cancellation of claims 4, 8 and 18 renders moot the corresponding portions of this rejection.

Claims 1 and 17, the rejected independent claims, already have been summarized in connection with the rejection based upon Okubo, and for the sake of brevity, those summaries are incorporated by reference herein.

In the invention as claimed a penetrating part disposed at a first one of the second side faces is formed as a **penetrating hole** into which a caulking part can be inserted. Therefore, the penetrating hole firmly holds the caulking part before the caulking part is caulked.¹ On the other hand, the penetrating part disposed at a second one of the second side faces is formed as a notch in order for a caulking part to be inserted. Therefore, the notch makes the caulking part be easily received. As a result, assembling a liquid cartridge becomes easy, and a lid is solidly fixed to a container body.

¹ "caulk" means "to make a seam or joint airtight, watertight or steamtight by driving in caulking compound, dry pack, lead wool, or other material." McGraw-Hill Dictionary of Scientific and Technical Terms (5th ed. 1994) (copy annexed as Exhibit A). "Caulk" also should be construed with reference to the specification, including, as explained above, ¶¶ 90-95 and 98.

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In Kobayashi there is no need for "caulking" - an engaging groove 106, which arguably corresponds to a penetrating part of the present invention, **is not formed as a penetrating hole**, but is just formed as a notch. One skilled in the art will appreciate that a notch is quite different from and in no way suggestive of a hole, as claimed.

Kobayashi also suffers from the same defects as Okubo; Kobayashi fails to suggest the shape of the caulking parts. In the present invention, as recited in claim 1, the penetrating part of the engaging part at the first one of the second side faces is a penetrating **hole**, and the penetrating part of the engaging part at the second one of the second side faces is a **notch**. This arrangement aids in positioning the lid during assembly. However, as shown in Fig. 9, Kobayashi teaches only the use of notches, not holes.

In particular, Kobayashi teaches at col. 7, line 33, through col. 8, line 54, that the cover 11 has two engaging legs 111 that are able to deflect outward and then snap inward to fit in engaging groove 106 as the cover is attached. Kobayashi also teaches that the ink cartridge can be assembled by bending engaging legs 111 outward.

A further distinction between this invention and Kobayashi is that in Kobayashi there is no need to caulk the engaging leg 111, which corresponds to the caulking part of the claimed invention, because the engaging leg elastically deforms when the engaging leg engages the engaging groove (this is different from and not even suggested of caulking in the manner claimed). Consequently, following the teachings of Kobayashi the lid would be loosely fixed to the container body; as already explained, Kobayashi's lid can be removed.

Nor would one modify Kobayashi in a way that could lead to the present invention; as noted above, Kobayashi's ink cartridge can be disassembled; one skilled in the art would appreciate that caulking in the manner of the claimed invention would prevent such

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disassembly, meaning one skilled in the art would not be led by Kobayashi to the invention of claims 1 and 17.

Claims 2, 3, 5-7 and 9-13 ultimately depend from and so incorporate by reference all the features of claims 1 or 17, including those features which have been shown to patentably distinguish over Kobayashi. These claims are therefore patentable over Kobayashi at least for the same reasons as their respective dependent claims.

For all the foregoing reasons, the claimed invention patentably distinguishes over the cited art. Favorable reconsideration and withdrawal of this rejection are therefore respectfully requested.

**The Rejection Under
35 U.S.C. § 103**

Claims 2 and 3 have been rejected under 35 U.S.C. § 103(a) as being unpatentable over Kobayashi in view of U.S. Patent No. 6,773,099 to Inoue et al. Applicants respectfully traverse this rejection and submit the following arguments in support thereof.

Claims 2 and 3 both depend from, and so incorporate by reference all the features of claim 1, including those features just shown to avoid Kobayashi. Claims 2 and 3 therefore avoid Kobayashi at least for the same reasons as claim 1.

Nor does Inoue remedy Kobayashi's deficiencies. Inoue only is cited as suggesting a sealing member; it is not asserted that Inoue suggests the features of the present invention that already have been shown to overcome Kobayashi. Accordingly, the claimed invention patentably distinguishes over Kobayashi and Inoue for at least the same reasons it avoids Kobayashi alone.

This rejection also is traversed on grounds Inoue is not properly characterized. The Office Action asserts Inoue teaches a sealing member 11 that is covered by a lid 13, as shown

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in Fig. 2. That, however, is wrong. As explained at col. 13, lines 49-55, and col. 13, line 67, through col. 14, line 3, item 11 is a movable membrane and item 13 is an outer casing, not a cover (a cover would be separate from another portion of the ink cartridge body). Movable membrane deforms to avoid pressure fluctuations.

Nor is the asserted justification for the combination of Kobayashi with Inoue persuasive. The Office Action asserts one skilled in the art would combine these references to generate required negative pressure in the ink cartridge. However, this reasoning fails because the features of Inoue said to be applicable to Kobayashi, the seal and cover, are not what generated Inoue's negative pressure. Rather, Inoue provides a spring 40 that generates negative pressure (col. 14, lines 4-14), and the claimed invention does not require such a spring. So one skilled in the art would have no reason to combine these references.

Accordingly, favorable reconsideration and withdrawal of this rejection are respectfully requested.

CONCLUSION

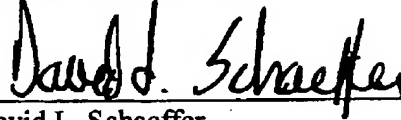
Applicants respectfully submit that all outstanding objections and rejections have been addressed and are now overcome. Applicants further submit that all claims pending in this application are patentable over the prior art. Favorable reconsideration and withdrawal of those rejections and objections is respectfully requested.

Other than the fee for the requisite extension of time authorized in the Petition for Extension of Time Under 37 C.F.R. 1.136(a) submitted herewith, no fees are believed to be due in connection with the filing of this paper. Nevertheless, the Commissioner is authorized to charge any fees now or hereafter due in this application to Deposit Account No. 19-4709.

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In the event that there are any questions, or should additional information be required, please contact Applicants' attorney at the number listed below.

Respectfully submitted,



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